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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,878	07/20/2005	Sang-Cheon Park	H0595.0025/P025	8387
24998	7590	10/13/2006	EXAMINER	
DICKSTEIN SHAPIRO LLP			COLILLA, DANIEL JAMES	
1825 EYE STREET NW				
Washington, DC 20006-5403			ART UNIT	PAPER NUMBER
			2854	

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/542,878		PARK ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Daniel J. Colilla		2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2006.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 3 is objected to because of the following informalities: Claim 3 appears to be a double recitation of that which has already been recited in claim 1. In claim 1, applicant recites that both the thermofusible ink layer and protective layer contain a material having luminescence, invisible fluorescence or mixture thereof. In claim 3, applicant recites that the thermofusible ink layer contains a material having luminescence, invisible fluorescence or mixture thereof.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

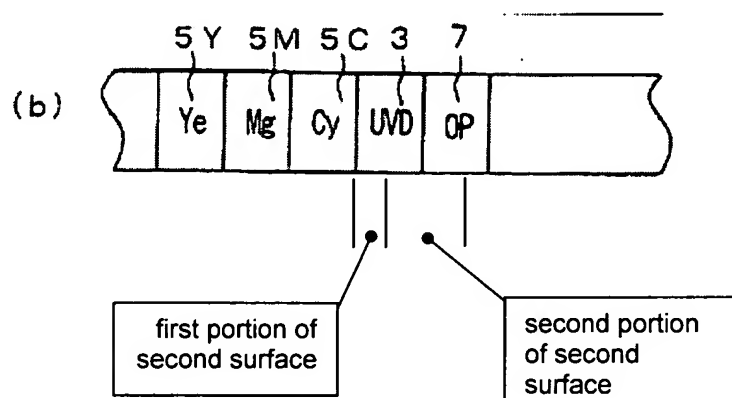
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 4, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi et al. (US 6,368,684) in view of Yamauchi et al. (US 5,387,013).

With respect to claims 1 and 3, Onishi et al. discloses the claimed thermal transfer ribbon except for the protective layer containing a material having luminescence, invisible fluorescence or mixture thereof. Onishi et al. discloses the claimed thermal transfer ribbon including a substrate film 2, a heat resistant layer 4 coated on a first surface of the substrate film, at least one thermofusible ink layer 3 coated on a first portion of a second surface of the substrate film 2 and

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at least one protective layer 7. The thermofusible ink layer and at least one protective layer are coated on a second portion of the second surface of the substrate film as shown below in the below Figure taken from Figure 4b of Onishi et al.:



The above lines indicated the sections of the substrate along the length of the ribbon that correspond to the first and second portions of the second surface of the substrate. In col. 7, lines 1-18, Onishi et al. discloses that the thermofusible ink layer 3 includes a latent (invisible) fluorescence material. Yamauchi et al. discloses a thermal transfer ribbon with a protective layer 4 that includes an invisible fluorescence material (Yamauchi, col. 4, lines 4-29). It would have been obvious to combine the teaching of Yamauchi et al. with the thermal transfer ribbon disclosed by Onishi et al. for the advantage of the added complexity of an image that is printable with the thermal transfer ribbon; thus making the resultant printed document more difficult to forge.

With respect to claim 4, Onishi et al. teaches the claimed requirement. Column 18, lines 23-44, teach the fluorescent substance (which includes luminescence) is preferably 15 to 80% by weight, preferably 20 to 50% by weight in the thermofusible layer 3, which falls within the claimed range.

With respect to claim 6, Yamauchi et al. discloses in col. 34, in the chart under the heading Examples B2-B5, that the fluorescent dye can be .05 parts or 5%. Throughout the disclosure Yamauchi et al. refers to “parts by weight” when discussing amounts of substances in the ribbon. Although not explicitly recited in the chart, it is assumed to implicitly be parts by weight. Thus the fluorescence material in the protective layer meets the limitation of being in the range of 0.5-50% weight %.

With respect to claim 7, Onishi et al. discloses sublimable dye layers 5Y, 5M and 5C as shown in Figure 4b of Onishi et al.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1, 4, 5, 6 and 7 have been considered but are moot in view of the new ground(s) of rejection.

Onishi et al. has been reinterpreted to teach the thermofusible ink layer containing a fluorescence material in view of applicant's amendment. Yamauchi et al. has been added to make a combination that teaches a protective layer including a fluorescence material.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kurokawa et al. is cited to show another example of a thermal transfer ribbon including a protective layer which includes fluorescence material. Mizumachi et al. is cited to show another example of a thermal transfer ribbon including sublimable dyes and thermofusible dyes.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Colilla whose telephone number is 571-272-2157. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached at 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 5, 2006



Daniel J. Colilla  
Primary Examiner  
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